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SUITE 1404
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EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1724

DATE MAILED: 07/31/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,881

Applicant(s)

LIANG, BOR-JYE

Examiner

Jason M. Greene

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The specification contains a number of apparent translation errors. For example, the specification recites "Especially, the exhaust generated from the diesel oil or the heavy oil is extremely shocked at the sight of us." in page 1, lines 15-16. The Examiner suggests Applicants carefully review the specification and correct any translation errors.

Claims

3. With regard to claim 1, the Examiner has interpreted the limitation "the treated exhaust being capable of reducing original pollution thereof after being led out from the closed housing" in lines 9-11 as meaning that the treated exhaust exiting the housing contains less pollution than the original exhaust which entered the housing. If this interpretation is correct, the Examiner suggests Applicants rewrite the limitation to more clearly recite the intended meaning.

4. With regard to claim 7, the Examiner has interpreted the limitation "so that the exhaust may reduce the pollution to the environment" in lines 11-12 as meaning that the treated exhaust exiting the housing contains less pollution than the original exhaust which entered the housing. If this interpretation is correct, the Examiner suggests Applicants rewrite the limitation to more clearly recite the intended meaning.

5. With regard to claim 7, the Examiner suggests Applicants insert the word "with" between the word "communicate" and the word "the" in line 3 to improve the readability of the claim language.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Lim. The Examiner notes that Lim is a continuation of an international application filed

on or after 29 November 2000. Since the international application designated the United States and was published in the English language, the effective filing date of the Lim reference is the international filing date of the international application, 26 January 2001.

With regard to claim 1, Lim discloses a method of anti-pollution for exhaust, comprising the steps of providing a closed housing (10) filled with a plurality of filter materials and a plurality of clearances being between the filter materials, connecting a discharge part of the exhaust (3) to a hole at an end of the closed housing and another hole at another end of the closed housing for leading treated exhaust out, and introducing the exhaust into the closed housing and a plurality of contaminating particles in the exhaust being left in the closed housing and the treated exhaust being capable of reducing original pollution thereof after being led out from the closed housing in Figs. 1-7 and paragraph numbers [0031] to [0051].

With regard to claim 2, Lim discloses the housing (10) having a single space in Figs. 1 and 4.

With regard to claim 3, Lim discloses an interior of the housing being formed with a plurality of separated zones (116) by way of intervening with a plurality of grids (200) and each of the separated zones being added with the filter materials in Figs. 4 and 7 and paragraph numbers [0049] to [0051]. Since the filtering device (100) containing the

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separated zones and filter materials is added to the housing as a single unit, each of the separated zones are seen as being added with the filter material.

With regard to claim 4, Lim discloses the filter materials being a plurality of filtering particles, which can be formed as oval and circular balls, and the filtering particles being made of one or more of metal, ceramic, and stone (sand) in paragraph number [0012].

With regard to claim 6, Lim discloses the filter material having a catalyst convert agent added on a surface thereof in paragraph number [0012].

8. Claims 7, 8, 10, 12, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Lim.

With regard to claim 7, Lim discloses an anti-pollution device for exhaust, comprises a housing (10), providing an inner filtering chamber, an inlet hole, being provided on the housing to communicate the filtering chamber, an outlet hole, being provided at the filtering chamber of the housing to communicate with a wall of the housing, a plurality of filter materials, being congregated and filled in the housing with a plurality of clearances between the filter materials, whereby, once the inlet hole connects with a discharge port for the exhaust, a plurality of contaminating particle in the exhaust can stay in the filtering chamber while the exhaust passes through the

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filtering chamber so that the exhaust may reduce the pollution to the environment in Figs. 1-7 and paragraph numbers [0031] to [0051].

With regard to claim 8, Lim discloses the inlet hole and the outlet hole each extending a distance of pipe section in Figs. 1-7.

With regard to claim 10, Lim discloses a muffler being added to the housing in paragraph number [0032].

With regard to claim 12, Lim discloses the filter materials being a plurality of filtering particles, which can be formed as oval and circular balls, and the filtering particles being made of one or more of metal, ceramic, and stone (sand) in paragraph number [0012].

With regard to claim 13, Lim discloses the filtering chamber being formed with two or more rooms (116) by way of partitions (200) with each of the rooms being filled with the filter materials and a passage (formed in the openings of the meshes forming the partitions 200) communicated with the rooms in Fig. 7 and paragraph numbers [0049] to [0051].

Claim Rejections - 35 USC § 103

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9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim in view of Bois.

Lim does not disclose the housing being added with a relief valve for relieving an excessive pressure and/or a temperature controller for a temperature reduction.

Bois discloses a similar method wherein the housing has a relief valve (15) for relieving an excessive pressure in Fig. 1 and col. 2, line 66 to col. 3, line 61.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the pressure relief valve of Bois into the housing of Lim to allow exhaust gas to escape from the housing when a predetermined pressure is attained, as suggested by Bois in col. 2, line 66 to col. 3, line 3.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lim in view of Partin.

Lim does not disclose an agitator and/or an ash blow device being added to the housing.

Partin discloses a similar housing including an agitator (44,46,48) in Figs. 1-3 and col. 4, line 27 to col. 5, line 4.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the agitator of parting into the housing of Lim to provide for an agitation or stirring process which serves to loosen accumulated particles of impurities to facilitate the removal of the loosened impurities from the housing, as suggested by Partin in col. 4, line 65 to col. 5, line 4.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lim in view of Ignoffo.

Lim discloses each of the partitions being a planar mesh and the filtering chamber being formed as a unitary structure formed as a box net with grids (112,114) in Figs. 4 and 7 and paragraph numbers [0049] to [0051].

Ignoffo discloses a similar device wherein the filtering chamber is formed from a plurality of separable rooms (12a,12b), wherein each of the separable rooms is formed by partitions formed by a box with net grids in Fig. 5 and col. 4, line 47 to col.5, line 61.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the separable rooms and partitions formed as box nets with grids of Ignoffo into the device of Lim to allow each room to be individually removed and replaced to lower maintenance costs, as suggested by Ignoffo in col. 5, lines 42-61.

Conclusion

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13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Muckley, Gary, Encinas, Franck-Philipson, Mita et al., Viers, and WO 01/57370 references disclose similar anti-pollution methods and devices.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (703) 308-6240. The examiner can normally be reached on Tuesday - Friday (7:00 AM to 5:30 PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (703) 308-1261. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jason M. Greene
Examiner
Art Unit 1724



jmg
July 16, 2003



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